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Ambulance use for 'primary care' problems: an ethnographic study of seeking and providing help in a UK ambulance service

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Ambulance use for 'primary care' problems: an ethnographic study of seeking

2   **and providing help in a UK ambulance service.**

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1   **ABSTRACT**

2

3   **Objectives:** To explore what factors shape a service-user's decision to call an

4   emergency ambulance for a 'primary care sensitive' condition (PCSC), including

5   contextual factors. Additionally, to understand the function and purpose of

6   ambulance care from the perspective of service users, and the role health

7   professionals may play in influencing demand for ambulances in PCSCs.

8

9   **Design:** An ethnographic study set in one UK ambulance service. Patient cases

10   were recruited upon receipt of ambulance treatment for a situation potentially

11   manageable in primary care, as determined by a primary care clinician

12   accompanying EMS crews. Methods used included: structured observations of

13   treatment episodes; depth interviews with patients, relatives and carers and their

14   GPs; purposeful conversations with ambulance clinicians; analysis of routine

15   healthcare records; analysis of the original EMS 'emergency' telephone call

16   recording.

17

18   **Results:** We analysed 170 qualitative data items across 50 recruited cases. We

19   identified a typology of circumstances that result in EMS use for a PCSC, broadly

20   differentiated into 'internal' or 'external' triggers, depending upon how much control

21   the caller feels they have of the situation. Needing to access help on behalf of

22   someone else creates a specific anxiety around urgency. Healthcare professionals

23   are conflicted about dealing with the problem in front of them, and fuelling demand.

24

25   **Conclusions:** Previous work suggests a range of socio-demographic factors that

26   may be associated with the increasing trend of choosing ambulance care in

27   preference to alternatives. This work helps understand how candidacy is displayed

28   during the negotiation of eligibility for urgent health care. Seeking urgent assistance

1 on behalf of someone else often requires specific support and different strategies.

2 Use of EMS for such problems – although inefficient – is often conceptualised as

3 'rational' by service-users. Public health strategies that seek to advise the public

4 about appropriate use of EMS need to consider how individuals conceptualise an

5 'emergency' situation.

6

7

8 **KEYWORDS**

9

10 Ambulance; Emergency Medical Services; Urgent Care; Primary Care Sensitive

11 Conditions; Decision-making;

12

13

14 **ARTICLE SUMMARY**

15

16 **Strengths and Limitations**

17

18 • This is the first time that such a range of complementary data sources have

19 been used to explore PCSCs in the ambulance service in such case-level

20 detail, offering new insights from multiple perspectives on the same

21 encounter.

22 • The study draws on a relatively small number of cases in a single service,

23 and the methods of eligible case identification necessarily have some

24 subjectivity.

25 • Despite this, regular study advisory group scrutiny and a considered, reflexive

26 approach in the analysis provides confidence that the cases and phenomena

27 described are 'typical' and yield new insights.

28

1 **INTRODUCTION**

2

3 Emergency Medical Services (EMS) calls have been rising in the UK over recent

4 years at 7% per annum [1], [2]. Increasingly, these calls are for conditions or

5 situations that could potentially be managed through a timely contact with a primary

6 care provider [2]. Indeed, recent UK evaluations suggest only approximately 10% of

7 calls represent immediate life-threatening medical emergencies [3]. So-termed

8 'primary care sensitive' conditions (PCSCs) – which include some social situations

9 and mental health problems - often represent less efficient use of ambulance

10 resources, and may result in patients requiring a multitude of contacts to resolve their

11 need [4].

12

13 Despite UK policy favouring an integrated urgent care service that more closely

14 matches 'response' with 'request' [5], relatively little depth-work has considered how

15 and why PCSCs reach ambulance service workflows. A recent systematic review [6]

16 and evidence synthesis [7] identified that the emotional impact of needing advice

17 'urgently' may shape the choices made when help-seeking, offering a more nuanced

18 understanding of the classic illness models [8]. This work has also highlighted the

19 role that certain socio-demographic factors play, some of which appear

20 internationally universal in the context of avoidable ambulance use [6]. Previous

21 interview studies (e.g. [9]) have offered some insights into service-users' experiences

22 of ambulance care for PCSCs. This includes difficulties accessing services and

23 confusion about how services are structured - findings which have been mirrored

24 more generally in the urgent care, GP out-of-hours and Emergency Department

25 settings [10,11,12]. However, there remains a fairly superficial understanding of how

26 all contributing factors – personal, situational, professional and institutional –

27 combine to reflect the observed trend in increased ambulance attendance for

28 PCSCs.

1

2 Ethnography has recently been applied to the study of interactions between

3 ambulance clinicians and patients [13]. By employing the principles of 'triangulation'

4 [14] it is possible to use a variety of qualitative data, collected from complementary

5 perspectives, to offer a much richer understanding of a phenomenon. This

6 ethnographic study, therefore, sought to employ multiple methods to explore how

7 and why an exemplar set of PCSCs ended up receiving ambulance treatment.

8 Ultimately, the study aims to improve understanding of how to meet these needs.

9

10 **METHODS**

11

12 **Participants and setting**

13

14 This study took place in one UK Ambulance Service during a period of 5 months,

15 spanning September 2016 to January 2017. The UK is divided into thirteen regional

16 ambulance services (with additional, separate provision for those Islands with

17 autonomous administration). The service participating in this study handles

18 approximately 250,000 emergency calls per annum, and serves a population of just

19 under 3 million people across a geographic area exceeding 20,000 square

20 kilometres. Cases were eligible for inclusion in this study if the following criteria were

21 met:

22

23 - The patient was an adult with capacity to consent to study participation;

24 - The caller (either the patient or their representative) had dialled the national

25 emergency '999' number and asked for an ambulance;

26 - The call had been triaged to receive an emergency ambulance response (of

27 any priority);

1   -   The reason for their call was subsequently deemed to be for a potentially

2   'primary care sensitive' situation.

3

4   Such 'primary care sensitive' situations were identified by the first author – MB, a

5   primary care clinician researcher - who accompanied front-line ambulance crews

6   during routine shifts in a 'non-participant observer' capacity. A set of consensus-

7   informed indicator criteria (Figure 1) and professional judgement were used to

8   identify potential cases. Conditions and situations that would likely be realistically

9   amenable to resolution in a primary care setting were considered eligible. This

10   method of identifying 'primary care' cases was favoured over attempts to use clinical

11   records or routine outcome data, as it was felt that a primary care clinician working at

12   the scene could more accurately assimilate all of the clinical, situational and

13   contextual nuances in real-time to make a judgement. The basis for each recruitment

14   was discussed and agreed at regular study team meetings during the recruitment

15   phase, with recruitment continuing until a broad and diverse representation typical of

16   'urgent primary care' presentations had been included, as determined by consensus

17   with the study advisory panel. This panel comprised methodologists, a GP, a

18   paramedic and a patient/carer representative.

19

20   **Insert Figure 1**

21

22   At the conclusion of the ambulance service treatment, the patients (and/or their proxy

23   callers, where appropriate) were provided with information regarding the study.

24   Patients or carers who made contact to request further details were subsequently

25   formally consented. In cases where someone other than the patient had made the

26   999 call, consent was sought from the caller as well as the patient.

27

28   **Patient and Public Involvement**

1   The study team regularly consulted with an Urgent Care Service Users study

2   advisory panel, including patient and carer representatives who had recently

3   accessed ambulance care. This group helped shape the design and focus of the

4   study, ratify the research questions, advise on the content of participant-facing study

5   literature and refine the dissemination strategy.

6

7   **Data collection methods and sources**

8

9   For each treatment contact observed, MB completed an ethnographic template

10   according to the 9 observational dimensions of Spradley [15], (which are now

11   established as key domains for ethnographic studies of healthcare encounters [16]).

12   This template included details on (amongst others) the space, setting, participants,

13   activities, objects and emotions evident in the encounter. Detailed field notes and a

14   reflective diary supplemented these. These were complemented by ethnographic

15   interviews [17] with patients and – where possible – any relatives or carers present,

16   which were conducted within 14-days of treatment, securely audio-recorded,

17   transcribed verbatim and checked for accuracy by participants. Where the

18   observation or interview indicated there may be value in further insights from in-hours

19   primary care, GPs were approached by letter to participate in a semi-structured

20   interview [18], recorded and transcribed as above. These interviews were supported

21   by a printout of the last 12 months of primary healthcare records as stimulus

22   material, used to inform prompts during interviews. Ambulance clinicians consented

23   to be observed at the start of the shift, and to the making of secure audio recordings

24   of spontaneous 'professional conversations' [19] throughout the shift. These were

25   subsequently transcribed verbatim and matched to the cases. The original 999-call

26   recording was securely obtained from the ambulance service, redacted, and

27   transcribed according to the conventions of Conversation Analysis (CA) [20]. A more

28   detailed CA-based analysis has been performed on these recordings and is reported

1 elsewhere [21]. For the purposes of this study a 'realist' content analysis approach

2 was used to enable comparisons to be made across other data sources.

3

4 **Rationale for an ethnographic approach**

5

6 Within the field of applied health research, ethnography has come to encompass a

7 range of complementary, overlapping qualitative principles and techniques that may

8 include the concepts of 'case studies' or 'life histories', constructed through fieldwork

9 undertaken over time amongst the people of interest [17]. Ethnography involves the

10 telling of *'credible, rigorous and authentic stories from the perspectives of people*

11 *experiencing the phenomena of interest in the context of their daily lives and culture'*

12 [22]. Features of an ethnographic approach include: a strong emphasis on exploring

13 the nature of a social problem; a tendency to work with unstructured data;

14 investigation of a small number of cases in great detail; and analysis that seeks to

15 interpret the meaning and functions of human actions within a specific context [23].

16 The key principles of the ethnographic approach, drawing upon the epistemology of

17 subtle (critical) realism [24], are therefore well suited to exploring the mixed physical,

18 social and psychological manifestations of 'unwellness' in the pre-hospital setting,

19 and understanding the actions people take to secure urgent advice.

20

21

22 **Ethical considerations**

23

24 Due to the nature of the possible 'urgency' of the treatment contact, it was not

25 practical to obtain full informed consent for the ethnographic observation at the

26 outset, and in practice some data was necessarily collected (in the form of field notes

27 and observations) before consent was achieved. At the earliest practical opportunity,

28 the observing primary care clinician researcher was introduced to the patient and

1   2   3   4   5   6   7   8   9   10   11   12   13   14   15   16   17   18   19   20   21   22   23   24   25   26   27   28   29   30   31   32   33   34   35   36   37   38   39   40   41   42   43   44   45   46   47   48   49   50   51   52   53   54   55   56   57   58   59   60

1   verbal consent sought to remain. A 'shared understanding' document served as an

2   advance agreement between the researcher and the ambulance crews, such that if

3   any circumstances arose where it was felt that it was either unsafe or inappropriate

4   for the researcher to remain, an process was in place for withdrawal and deletion of

5   any data.

6

7   **Data analysis**

8

9   Analysis commenced early during data collection and continued throughout, following

10   an iterative-inductive approach. The overall analysis approach was thematic,

11   informed by the principles of constant comparison [25]. An individual patient with all

12   their associated data was treated as a 'case'. First, within-case analysis was

13   conducted to capitalise on the rich case-wise ethnographies. Secondly, across-case

14   analysis sought to develop an understanding of common phenomena across the

15   whole dataset.

16

17   Data pertaining to each specific case were indexed and collated with the assistance

18   of the qualitative analysis software NVivo (Version 10). Interview transcripts, field

19   notes, conversations, ethnographic frameworks and 999-call transcripts relating to

20   each case were treated as separate data items. Each data item was repeatedly read

21   and re-read to build familiarity, and then first-level coded, using 'free-form' open

22   codes. Primary care records were similarly first-level coded, in a manner informed by

23   Document Analysis (a specific form of Content Analysis that treats the record as a

24   'document with a specific purpose' [26]).

25

26   The codes from these separate data sources were then combined to develop a set of

27   second level axial codes pertaining to all pooled data items about an *individual* case.

28   A third tier of coding combined these axial codes into themes. In this analysis, the

1 term *theme* is used to refer to patterns that run within a case. The techniques of

2 charting aided this process [27]. Figure 2 provides an illustrative example of within-

3 case charting of themes.

4

5 <mark>Insert Figure 2</mark>

6

7 Secondly, to identify and explore issues across and between cases, a final level of

8 coding sought to combine these *themes* into *cross-cutting concepts*. It is recognised

9 that the term 'concept' has a variety of uses and meanings in the social sciences. In

10 this analysis, the term *concept* is used to refer to a high-level phenomenon that runs

11 amongst and between cases. Figure 3 provides a diagrammatic overview of the

12 relationship between data, cases, themes and concepts.

13

14 <mark>Insert Figure 3</mark>

15

16 **RESULTS**

17

18 A total of 180 hours of observation were completed, as summarised in Table 1. This

19 generated 170 data items across 50 cases (48 ethnographic observation templates,

20 44 patient interviews, 18 carer interviews, 8 GP interviews, 8 ambulance staff

21 conversations, 10 primary care record extracts and 46 999-call recordings). The

22 characteristics of cases are shown in Table 2.

23

Characteristic	Shift Hours (in Rural Setting)	Shift Hours (in Urban Setting)
Solo paramedic responder (rapid response vehicle)	24	24
Dual-crewed paramedic ambulance	56	76
Daytime (08:00-20:00)	44	76

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	36	24
Night time (20:00 – 08:00)		
	60	76
Weekday		
	20	24
Weekend		

1

2   **Table 1**: Spread of observation hours according to crew type, time, and day.

3

4

Characteristic	Cases (n=50)
Mean age (years)	57.4
Age range (years)	18 – 92
Female	30 (60%)
Has a formal carer	18 (36%)
Not the patient making the 999 call	31 (62%)
Clinical problem	
Acute infection	7
Breathing problems	5
Mental health problems	5
Abdominal Pain	4
Falls, faints & funny turns	4
Sickness / gastroenteritis	3
Confusion	3
Other	3
Chronic pain condition flare-up	3
Urinary symptoms	2
End of life / palliative care problem	2
Chest pain	2
Musculoskeletal pain	2
Skin problems	2
Headaches	2
Medication problems	1
Outcome	
Transported to hospital	14 (28%)
Treated at scene – no referrals	13 (26%)
Treated at scene – referred to GP	18 (36%)
Treated at scene – referred to community nursing or social care	4 (8%)
Refused further treatment	1 (2%)

5

6

7   **Table 2**: Characteristics of recruited 'cases'.

1

2 Three cross-cutting concepts emerged from the cross-case analysis. These are:

3

4   1. There exists a typology of circumstances that result in an ambulance for a

5   'primary care' problem. These circumstances result from both internal patient-

6   specific factors and external environmental factors.

7   2. Calling an ambulance on behalf of someone else generates a specific anxiety

8   around prioritisation and urgency.

9   3. Clinicians are conflicted about dealing with the problem in front of them, and

10   fuelling further demand.

11

12 **1: There exists a typology of circumstances that result in an ambulance for a**

13 **'primary care' problem**

14

15 This concept groups together and describes the circumstances that appear to result,

16 most fundamentally, in the trigger to make contact with the ambulance service.

17

18 These sets of circumstances can be considered together as a 'typology' of triggers.

19 Although it can not necessarily be claimed that this group of trigger circumstances is

20 true for *all* '999' calls to the ambulance service, within this group of cases it is possible

21 to summarise all of the circumstances under nine headings. They have been classified

22 as either 'internal factors' or 'external factors' (or both). 'Internal factors' tend to

23 describe a participant's perception of their lived experiences. 'External factors'

24 describe the actions and perceptions of people or services around the patient. This

25 classification helps to typify some of the circumstances and there is overlap –

26 contradicting examples are highlighted below, where they occur.

27

1   Importantly, this typology of 'trigger factors' appears consistent in shaping both a

2   patient's decision to call an ambulance, and a carer or relative's. This would suggest

3   that these factors do more broadly describe the *circumstances* rather than the

4   *individuals* involved. Table 2 summarises these trigger factors.

5

'Internal' factors	'External' factors
An arbitrary deadline or watershed is reached	An outsider offers advice / an opinion
The situation becomes 'overwhelming'	An alternative avenue of care meets a block
A symptom triggers a 'red flag'	A healthcare professional takes charge
Experience of isolation	The problem belongs to someone else
A change occurs in care provision	

6

7   **Table 2:** Trigger factors that result in an ambulance contact

8

9   **An arbitrary deadline or watershed is reached (internal factor)**

10

11   This classification was a common trigger for patients with both acute conditions and

12   long-term problems, and describes a circumstance whereby the patient or carer sets

13   an arbitrary time frame for resolution of some symptom or situation. If that time frame

14   is exceeded, the patient reaches the conclusion that the situation justifies an

15   ambulance call:

16

17   *"I'd been on these things [antibiotics] for two days by that time, and I hadn't seen signs*

18   *of improvement. He'd told me that if the redness spreads across the line to call him*

19   *back. Well it hadn't done that. But he also said it would start to get better in a couple*

20   *of days. I took the first one with tea on Tuesday, so, well, it was two full days by teatime*

21   *Thursday wasn't it?"*

22   Patient Interview, Case 31 (cellulitis).

23

1   The ambulance staff appeared very familiar with this situation, and reflected how it

2   even influences the organisation's operational planning:

3

4   *"Yeah, people do that don't they? They sort of set a line in the sand around key points*

5   *of the day? We find that a lot. For some its dinnertime or bedtime or whatever. The*

6   *service does see increases in calls around certain specific times of the day because*

7   *of people doing that. I suppose it is only natural that you draw a line in the sand at a*

8   *specific point but I do struggle to understand the decisions some times."*

9   Ambulance Staff, Conversation 1

10

11   For these patients, the timeframe of their experienced illness appears the principle

12   driver in making the call.

13

14   **The situation becomes 'overwhelming' (internal factor)**

15

16   This classification describes a situation whereby the caller feels that all their current

17   issues – symptoms, social circumstances, emotional resilience – have reached a point

18   that they cannot continue to function without some outside help. The term

19   'overwhelming' was drawn from the following participant interview:

20

21   *"I was just completely losing track of it all to be honest. The pills I had to give [my wife],*

22   *all the comings and goings of the carers, the dressing kept coming off, the phone is*

23   *going all the time, I need to do her tea and sort everything at home out, and then this?*

24   *This mix-up with the medicines. Truth be told I just felt a bit overwhelmed by it all, you*

25   *see?"*

26   Carer interview, case 36, Medication administration error.

27

1 There are examples in the case set of where patients themselves feel overwhelmed

2 and where carers or relatives feel overwhelmed. Although there is a link with the

3 concept of isolation, being 'overwhelmed' does appear conceptually distinct, as some

4 non-isolated callers also felt 'overwhelmed' by the burden that their experience placed

5 upon them.

6

7 **A symptom triggers a 'red flag' (internal factor)**

8

9 In a number of cases, patients or carers had been managing their illness or condition

10 up to a point where a new feature or symptoms emerged that triggered concern about

11 a serious illness. Health care professionals often refer to 'red flag' symptoms as those

12 that may be indicative of a serious underlying illness, and that warrant being taken

13 seriously. It appears this term – both literally and conceptually – has entered the patient

14 lexicon too, as it was referred to as the specific trigger in a number of cases:

15

16 *"Well, when he had chest pain too, you don't ignore that do you? It's like some kind of*

17 *red flag to a bull isn't it? You act - you call - huh?"*

18 Carer Interview, Case 8, Muscular Chest Pain

19

20 *"I thought 'oh my God you get a rash in meningitis' don't you? Don't you?"*

21 Patient Interview, Case 19, Skin complaint

22

23 Such discussion of 'red flags' was evident in some of the primary care consultation

24 records, as part of the safety-netting process:

25

26 *"SOS and red flags disc[ussed]. Knows [to call] OOH [out of hours]/999 etc if*

27 *^pain/haemop[tysis]/SOB[shortness of breath] etc at any further stage."*

28 Primary Care Record Extract, Case 35, Swollen leg.

1

2   The vagueness of the clinician's advice about timeframes within which patients should

3   act if they experience a 'red flag' was cited as a particular source of anxiety in some

4   patient and carer interviews, and was reflected in the observations. There were also

5   examples of patients attempting to self-manage conditions through internet research,

6   and mis-attributing a description of a 'red flag' to their own situation.

7

8   **Patient experiences isolation (internal factor)**

9

10 The experience of isolation appeared to drive contact with the ambulance service in a

11 number of ways. There were examples of cases where the isolation was to do with

12 very practical aspects of living, possibly sudden or abrupt – perhaps someone who

13 usually provided counsel or a channel of connection was no longer available. There

14 were other examples where the isolation was longstanding, with a strong social and

15 emotional component:

16

17 *"[The] Lady asked me to pass cheque-book sized photograph album that was sitting*

18 *on the mantelpiece next to her armchair, so she could put [it] in her purse to take with*

19 *her [to hospital]. Asked her about it; noted it was embossed with the title 'friends who*

20 *have entered the everlasting'. She told me how she took the memories of her friends*

21 *with her wherever she went so that they were "always by her side". Asked her if there*

22 *was anyone we should let know she was going in. 'No, there's no one left'."*

23 Extract from ethnographic framework and field note diary, Case 42, Chest Infection

24

25 Interestingly, there were also examples of where isolation was expressly recognised

26 as a feature in the lives of some participants, but rejected as a factor in triggering an

27 ambulance contact. In these cases, participants explained how isolation was

something that they had learned to adapt to such that it wasn't the driving factor in seeking ambulance help:

"I know I am all on my own here, and my family are far away. They can't do much practically for me. But I have found ways around that, you know? I save things up to tell them. I know they care from afar and so I just get on with doing what is necessary rather than relying too much on them… practically, at any rate. I get my own help if I need it. It doesn't bother me that they are not on the doorstep."

Patient Interview, Case 21, urine infection

This particular case is interesting, as much of the interview focussed on how well he felt he was coping on his own without practical support. Whilst this participant would certainly not define himself as emotionally isolated, many of the codes in the data about this case pertained indirectly to issues of practical isolation, and so the concept of isolation was very strongly expressed in the analysis, even though he overtly rejected it.

A change occurs in care circumstances (internal and external factor)

This category describes situations where a (usually sudden) change in the social care provision propels the patient towards ambulance care, or results in the carer calling an ambulance. The former appears most commonly due to the turmoil that the destabilising effect of carer change has:

"And it was a new woman? And I don't think she got it, she didn't really seem to see how unsettled he was in and that wasn't normal for him. So I didn't think she really knew what to do. She didn't know him before, that was the trouble, so I had to act!".

Carer Interview, Case 34, (Confusion)

1

2 In this example, the change in carer provision had caused an upset to the usual routine.

3 Deeper analysis of the 'change of carer' concept reveals that this is actually quite

4 complex. There is a lack of familiarity, with all of the personal relationship and trust

5 issues that this may bring. There is also a lack of familiarity – as exemplified here –

6 with the patient's usual 'baseline' level of functioning. This can either create a situation

7 of heightened anxiety (in the cases where someone actually appears quite unwell, but

8 this is their normal level), or a perceived lack of awareness of subtle but important

9 signs of deterioration. In the above example, neither the practical nor emotional

10 benefits of familiarity were present, and the situation reached a flash point.

11

12 A change in the informal care arrangements, such as occurred when a relative become

13 unavailable, also had a destabilising effect:

14

15 *Care plan noted: 'Mr Xs son away at the moment, seems to be causing some distress*

16 *and concern. Phoned son and message left to say to call dad ASAP.' The carer*

17 *seemed to feel that Mr X was very unsettled by the fact his son was away.*

18 Ethnographic framework and field note diary, Case 32, unsteady on legs

19

20 **An outsider offers advice (external)**

21

22 This was a common trigger, and was found to a greater or lesser extent in nearly half

23 of all the cases. Typically, the 'outsider' was a friend or relative who offered a

24 perspective that *increased* the perceived urgency or legitimacy of the situation. In

25 several situations it appeared that the 'outsider' was actually the main driving force

26 behind the contact with the ambulance service:

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1   *"The friend who is present appears very keen for us to see the photographs of a*

2   *meningococcal rash that she has brought up on her iPad, showing everyone present*

3   *several times during the treatment contact that is what she thought the rash was."*

4   Ethnographic framework and fieldwork diary, Case 19, Rash

5

6

7   Ambulance staff spoke about their awareness (and even frustration) about the role that

8   those around the patient can have in driving the situation:

9

10   *"You sometimes have to just remove people… physically remove people… from the*

11   *situation because they are not being helpful. It is like they are projecting their own*

12   *anxieties on to the patient and its not helping. You are trying to have a sensible chat*

13   *with the patient about your clinical rationale and diagnostic reasoning, and they keep*

14   *chipping in something really unhelpful… like that lad earlier who kept talking about*

15   *brain tumours, yeah? I mean, that's something clearly he has got some specific issues*

16   *about from his past, but its not terribly helpful and it totally clouds the person's thinking*

17   *when that is going off in their ear, you know?"*

18   Ambulance Clinician Conversation 8, Case 47, headache

19

20   The ambulance staff recognise that the driver behind certain call-outs has not come

21   from the patient themselves, and so they sometimes find themselves managing two

22   problems – the actual clinical problem in the patient, and a separate situation in the

23   'other' person who is really the root of the call to the ambulance service. Staff,

24   therefore, can feel a mixed responsibility as to whom it is they are really there to help.

25

26   **An alternative avenue of care meets a block (external factor)**

27

28   This set of circumstances describes the perception of a 'road block' when trying to

1 access care via alternative avenues. The result is that the caller feels they have

2 exhausted all other options, and the ambulance is the only viable pathway. Sometimes

3 the block is overt:

4

5 *"I mean I tried that [calling the GP surgery] but they told me I should phone an*

6 *ambulance"*

7

8 Sometimes the 'block' is less clear. In the following example, the response from mental

9 health services is perceived as a 'block' because it didn't mean the timescale that the

10 caller has determined is appropriate for the pressing and immediate needs:

11

12 *"They sent me away, said he can't see a psychiatrist until Thursday. Well that's no use*

13 *is it, fobbing me off with an appointment in two days time? What do I do for the next*

14 *two days, lock him in the house?".*

15 Carer interview, Case 10, Mental Health Crisis

16

17 Healthcare staff appeared aware of how this 'block' can be perceived, and that it can

18 have consequences with regards to how patients choose to access care:

19

20 *"Hmm, we try and facilitate a GP call-back, but it is often not immediate – there is often*

21 *a delay once the request is passed from the reception girls. I guess that delay… we*

22 *try and minimise the delay for the patients we know… but I guess that delay for some*

23 *people is too long to be hanging in the air not knowing what to do? Often you phone*

24 *back… like here… half an hour later and they say 'oh we've called the ambulance,*

25 *don't worry now'. It is a bit frustrating."*

26 GP Interview

27

28 **A healthcare professional takes charge (external factor)**

1

2   This classification describes circumstances whereby a health professional takes over

3   and directs the patient to call an ambulance. This appeared to happen in one of two

4   ways. This might be through direct and specific advice to the patient to take that course

5   of action:

6

7   *"COPD, still exacerbating, started rescue pack, sounds SOB, advised 999".*

8   Primary Care Record Extract, Case 43, COPD Exacerbation

9

10 Or by offering very specific and defined advice about how the problem might unfold:

11

12 *"Adv[ised to call] 999 if any change at all, if any further prob[lem]s or deterioration"*

13 Case 22, Clinical records, COPD exacerbation

14

15 If the advice was delivered to the patient as recorded here, it would seem very clear

16 that the health professional was guiding the patient towards accessing ambulance care

17 in virtually any non-specific circumstance other than noteworthy and rapid clinical

18 improvement. The phrase '*if any further problems'* is potentially all-encompassing.

19

20 **This problem belongs to someone else (external factor)**

21

22 The final classification related to situations where the caller felt that the problem or

23 circumstance they found themselves in was someone else's responsibility to manage.

24 This occurred frequently where formal care staff were concerned:

25

26 *"So, I am not a medical person. I cannot be making decisions about when clients*

27 *should and shouldn't see doctor, mmh? If they fall, and even if no obvious injuries or*

28 *pains, they need to be checked, because I will be told… it is not my job to know if they*

1 *are hurt or something. They need medical people for this. If something should happen,*

2 *well - hah! I will be blamed."*

3 Carer Interview, Case 13, Dizziness

4

5 Issues of accountability, (limits of) profession roles and the potential for blame and

6 repercussions run through this example. There were also examples of a genuine

7 desire to ensure that something wasn't missed:

8

9 *"Somebody needs to come and manage this. There is a process I am sure, so my role*

10 *is to let them know and get that process going."*

11 Carer Interview, Case 5, End of Life

12

13 The field notes were also able to add an interesting perspective on this 'handing over'

14 of the problem, but showing how some people assumed a certain course of events

15 (e.g. admission) would occur almost without question once they call the ambulance:

16

17 *"By the front door were two nearly packed overnight bags, a mobile phone with*

18 *charger, several books, toiletry bags, and a completed 'tick sheet' of jobs including*

19 *'cancel milk, call neighbour re cat, thermostat down'. It almost appeared like a list one*

20 *would write before going on holiday. It was apparent that the patient was very much*

21 *expecting to be taken to hospital".*

22 Field notes, Case 6, abdominal pain.

23

24

25 **2: Calling an ambulance on behalf of someone else generates a specific anxiety**

26 **around prioritisation and urgency.**

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1   This concept is about seeking ambulance care on behalf of someone else, and

2   contrasts that specifically with the process of seeking ambulance care for oneself.

3

4   Within this cross-cutting concept are themes relating to responsibility. Responsibility

5   appears to be interpreted differently, depending on whether the carer is a formal

6   'professional' carer, or an informal relative carer. The two groups appear to handle

7   their perceived responsibilities differently. Whilst there are links with the above ideas

8   of triggers – particularly the 'the problem belongs to someone else' external trigger –

9   this concept explores the deeper reasoning people undergo to reach that conclusion.

10

11   Formal, professional carers appear to handle their responsibility in terms of a

12   professional duty and accountability. They see 'risks' in the terms of the potential

13   professional consequences for them if they are viewed as having failed to do their job

14   properly. This may lead to a lower threshold to call an ambulance:

15

16   *"We have to escalate, because, we could get in trouble if it is something serious and*

17   *we didn't act. You have your registration to think about, and the [professional] code [of*

18   *practice]. The code says you must escalate your concerns quickly."*

19   Carer interview, Case 49, Confusion.

20

21   Ambulance staff also described how they notice a specific decision-making process in

22   professional carers:

23

24   *"You know they wouldn't call you if it was their relative in that situation! They have their*

25   *box to tick… their checklist I guess. The would clearly manage the same problem very*

26   *differently if it was their mum, but its not their mum? It's their client, or their customer,*

27   *or whatever term they use. It's a different relationship and it means they act differently.*

28   *They take the path of least risk I think, and that's calling us."*

23

1   Ambulance Clinician Conversation 6

2

3   This is in contrast to the much more emotional response that many informal carers had

4   towards decision-making and risk, seeing their responsibility much more along the

5   lines of doing the best they could for the person they cared for:

6

7   *"I blamed myself for the whole mix-up really. It was up to me to put it right, do right by*

8   *him, you see? I felt I had in some way caused… well not caused it but, you know, made*

9   *the situation a bit more muddled, and so the right thing to do by him was to get some*

10   *advice as quickly as possible. I'd owe him that at least!"*

11   Carer interview, Case 40, end-of-life / medication confusion.

12

13   It appeared that for the relative-carer group, the immediacy and the urgency of the

14   response fulfilled a very important role. They appeared to be discharging their sense

15   of responsibility through the perceived speed of the response (and therefore how

16   seriously they felt their request for help was being taken). When evaluating oneself,

17   one has the advantage of experiential knowledge of 'knowing how you feel'; in contrast,

18   one is constrained by the quality and extent of communication from another when

19   evaluating the health state of others, which may contribute to a lower risk threshold:

20

21   *"She was just shaking, I didn't know what was going on! Shaking like that! [gestures].*

22   *She couldn't really tell me how she was feeling. When its you, you know how you*

23   *feeling don't you? You know if you feel unwell with it? Or if you think its something*

24   *serious? But with her…well she couldn't tell me, and so I just thought… well I didn't*

25   *know, so I called the ambulance".*

26   Carer Interview, Case 2, Urinary Tract Infection

27

1 **3: Clinicians are conflicted about dealing with the problem in front of them, and**

2 **fuelling demand.**

3

4 As all of the cases included in this analysis were for problems that could be deemed

5 'primary care sensitive', there was an inherent element of balancing the need to

6 manage the situation that resulted in the call, and re-direct the patient to another

7 provider:

8

9 *"They [the patients] want a consultation, they want to discuss their options, the pros*

10 *and cons of each and be assisted towards a decision. Well, that's 'primary care', that's*

11 *not what ambulances traditionally do. They want something from the service that it is*

12 *not designed or able to deliver."*

13 GP Interview

14

15 *"Its really hard – you know that this person has totally called the wrong people. You*

16 *offer strong words of advice, but how far do you go? The person still needs treatment,*

17 *so if you don't deal with the situation you just pass the person around and around".*

18 Ambulance Staff Conversation, Mental Health Condition

19

20 There is evidence in the data to suggest that patients can sometimes sense

21 themselves that they are 'caught up' in this dilemma, and that their requests and needs

22 can present health professionals with difficulties. One patient who felt conflicted about

23 her best course of action showed a particularly insightful example of this. She

24 recognised that her own limitations in determining how urgent her case was could pose

25 a problem for the clinicians at her surgery, as she was not able to articulate with

26 confidence a response to some of the triage questions:

27

1 *"The question… it's the questions they ask that are really hard to answer, you know?*

2 *They say 'oh is it an emergency?' and I sometimes feel like saying 'I don't know, that's*

3 *why I want to talk to the doctor! You know? I don't know. It seems silly, I mean – I know*

4 *they have to ask but when you say you don't know… it sometimes feels like you are*

5 *not being terribly helpful, but you don't know! And so you wonder if it is better not to*

6 *get them into that pickle by just going for the ambulance you know? And then you have*

7 *not had to make the situation for them [the surgery]. It is as if things are set up to take*

8 *you down a certain path, you know?"*

9 Patient Interview, Case 22, COPD

10

11

12 **DISCUSSION**

13

14 This study sought to further understand why PCSCs result in contact with ambulance

15 services, by characterising the context and purpose of the request for help from the

16 service-users perspective, and identifying if (and how) the response to that request

17 meets that need. In order to request ambulance treatment, callers must view

18 themselves (or the person in their charge) as 'candidates' for such assistance.

19

20 This notion of 'candidacy' describes how service-users embark upon negotiations

21 with healthcare professionals (or institutions representing healthcare, such as EMS),

22 based on their perceived entitlement to urgent care [10]. With regards to PCSCs,

23 this study suggests that entitlement is realised through (a) experienced health state

24 (b) a personal assessment of risk and (c) external triggers. Importantly, this study

25 suggests that the 'trigger factors' outlined in cross-cutting concept 1 may *de facto*

26 engender a sense of candidacy.

27

1 Outside of the context of needing urgent advice, patients and their carers are able to

2 rationalise what 'reasonable' use of resources looks like [28]. Yet, in the heat of the

3 moment, the influences of uncertainty, a sense of responsibility for the welfare of

4 another and a knowledge that the system needs certain information to prioritise

5 requests made of it, a new rationality exists.

6

7 Within this study, the sense of distancing oneself from one's actions is achieved

8 through the justification of circumstance as an *emergency* situation, which is often

9 indistinctly blended with an *uncertain* situation. This justification is – at least in part –

10 compounded by the healthcare providers' conflicted stance on dealing with the

11 problem *now*, or re-directing the patient to a primary care provider. There therefore

12 exists a circular challenge – by not resolving the issue during the EMS contact when

13 it would be technically possible to do so, the problem is perpetuated within the

14 system. This lack of resolution is professionally unfulfilling and inefficient, yet

15 resolving the contact feels to practitioners like reinforcement of (questionable)

16 candidacy.

17

18 As such, practitioners offer (and service-users) value other elements rather than just

19 medical treatment. This study supports previous work, suggesting that these

20 elements include reassurance [29], empathy [30], and a sense of bringing control to

21 an unmanageable or intolerable situation [7, 9, 29]. The findings of this study suggest

22 that service users might be seeking these non-medical elements of care when they

23 make contact with the EMS. The present triage processes they encounter are neither

24 designed nor able to offer these resolutions, however.

25

26 For nearly two decades, the academic discourse has sought to challenge the

27 labelling of callers such as those in this study as merely 'inappropriate' users of

28 ambulance services [31]. Indeed, international researchers are now recognising that

1   these 'inappropriate' contacts provide useful insights into equality of access and

2   utilisation of preventative healthcare in the community [32]. Nevertheless, the

3   influence of healthcare professionals' views on what is 'appropriate' ambulance work

4   continues to influence how practitioners manage these contacts [33]. Consequently,

5   the debate about what is fuelling society's apparent general declining ability to

6   tolerate 'uncertainty' and 'risk' continues. The established sociological concept of an

7   increasingly 'risk averse' society [34, 35] is omni-relevant. Additionally, it is important

8   to understand that healthcare institutions display their own attitudes to 'risk' via the

9   triage processes they require callers to undergo. This will impact on a process that is

10   already emotionally charged [36]. Where third-party callers are involved, the

11   projection of candidacy discussed above may be particularly problematic.

12

13

14   **CONCLUSIONS**

15

16   This study suggests notable implications for public health messages. Whilst the

17   public have an unquestionable responsibility to try and use scare emergency

18   resources appropriately, merely informing them to 'only use emergency services in a

19   genuine emergency' is unlikely to be of practical use in their moment of need. Where

20   PCSCs enter ambulance workflows, there often exists a sequence of events where

21   alternative avenues have been rationally explored but appear unsuitable. The public

22   (and in particular, those calling on behalf of another) may need specific, detailed

23   practical guidance to help them 'hold' some of the risk inherent in an uncertain

24   situation. The present systems do not appear to permit the handing-back of control of

25   the situation to caller. This may require a specific triage system that uses inherently

26   different logic to 'first party' calls.

27

28

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2

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6

7

8   **FOOTNOTES**

9

10   **Author Contributions:**

11   MB, SP, ARGS conceived and designed the study. MB acquired and analysed the

12   data. SP, ARGS, RB contributed significantly to the analysis and interpretation of the

13   data. MB drafted the manuscript. All authors revised the manuscript for important

14   intellectual content and gave final approval for the version to be published.

15

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21

22   **Competing Interests:**

23   None declared.

24

25   **Patient consent:**

26   Not required

27

28   **Ethics approval:**

1   The study received a favourable opinion from South West (Frenchay) Research

2   Ethics Committee (reference 15/SW/0307), and appropriate local governance

3   approvals were obtained.

4

5   **Data sharing statement:**

6   No additional data are available.

7

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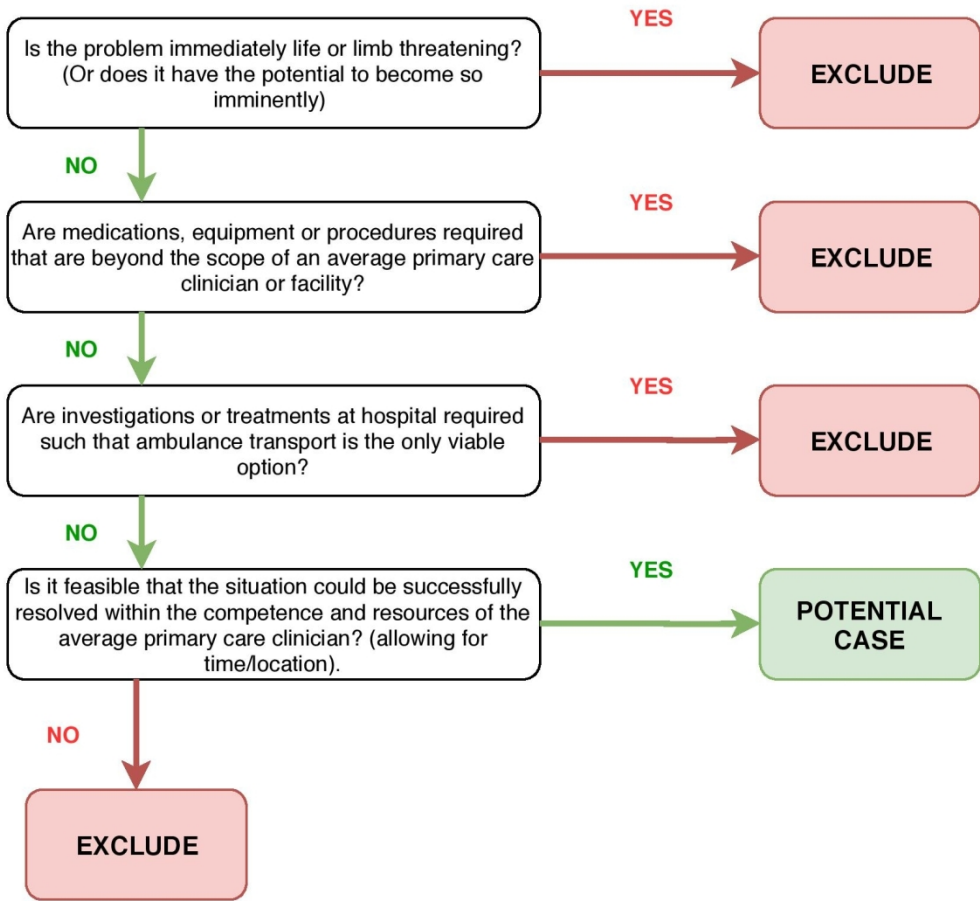medical care in emergency departments? An ethnographic exploration of

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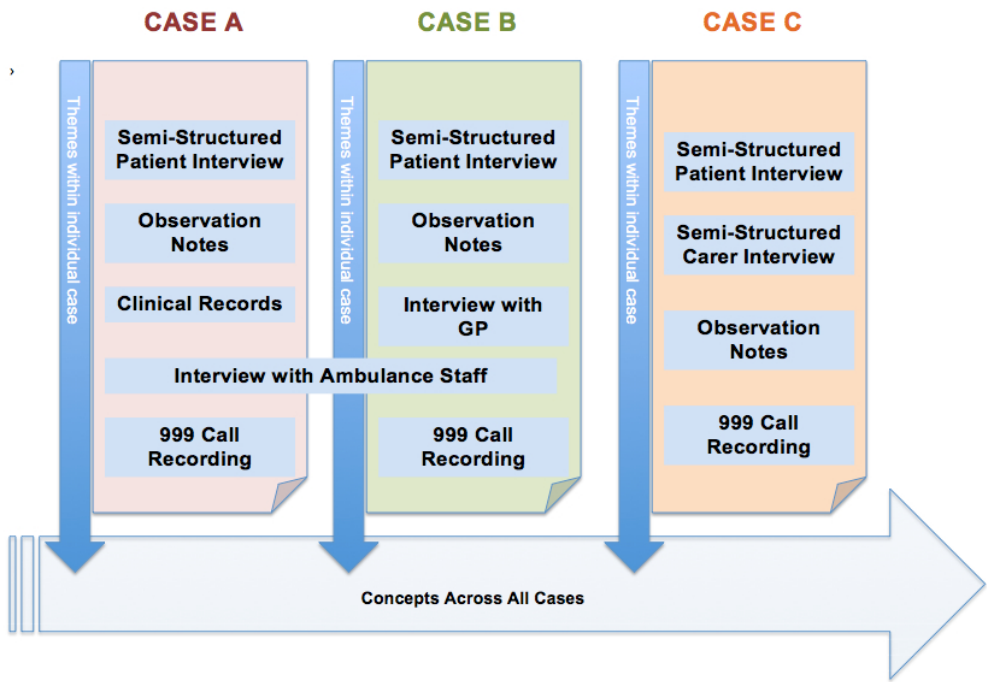
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9 **Figure legends**:

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11 Figure 1: Indicator criteria for 'primary care sensitive' case identification.

12 Figure 2: The 'charting up' process used to analyse data sources within cases.

13 Figure 3: The relationship between cases, *themes* and *concepts*.

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Indicator criteria for 'primary care sensitive' case identification.

142x131mm (300 x 300 DPI)

Data Source	Case A		
	Axial Code: Discounting of alternative sources of help	*Axial Code: My burden of health problems makes access difficult*	*Axial Code: No one understands what it is like to live with my health problems*
Observations	First-level code: Repeatedly expressed that GP wouldn't be able to help with this problem [A.16B]		First-level code: List of medications, diagnoses and specific problems these cause carried in handbag [A.112J]
Patient Interview	First-level code: Difficult to make oneself understood over the telephone cf face-to-face [A.23G]	First-level code: Breathlessness makes getting myself to the treatment centre impossible [A.72R]	First-level code: Difficulty summarising how the condition makes me feel to health professionals [A26.Y]
Carer Interview	First-level code: Speaking to the doctor hasn't been able to resolve this previously [A.63F]		First-level code: Need to explain on behalf of patient as finds upsetting to talk about [A.83.Y]
Primary Care Records		First-level code: Records annotated to allow telephone requests for repeat medication. [A.11K]	
GP Interview			First-level code: Depression largely results from severity of illness [A.4.J]
Ambulance Clinician Conversation	First-level code: Patients give reasons why they have not accessed care down another avenue to justify call [A.12H]		First-level code: Patients struggle to explain what prompted the call *today specifically* in an on-going longer term problem [A.67.B]
Field Note Diary	First-level code: Justification for 999 call made on basis of exclusion of other viable options [A.55A]		First-level code: Difficultly communicating how challenging day-to-day life is [A.53.K]

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CASE A	CASE B	CASE C

Themes within individual case

CASE A
- Semi-Structured Patient Interview
- Observation Notes
- Clinical Records
- Interview with Ambulance Staff
- 999 Call Recording

CASE B
- Semi-Structured Patient Interview
- Observation Notes
- Interview with GP
- 999 Call Recording

CASE C
- Semi-Structured Patient Interview
- Semi-Structured Carer Interview
- Observation Notes
- 999 Call Recording

Concepts Across All Cases

The relationship between cases, themes and concepts.

Reporting checklist for qualitative study.

Based on the SRQR guidelines.

Instructions to authors

Complete this checklist by entering the page numbers from your manuscript where readers will find each of the items listed below.

Your article may not currently address all the items on the checklist. Please modify your text to include the missing information. If you are certain that an item does not apply, please write "n/a" and provide a short explanation.

Upload your completed checklist as an extra file when you submit to a journal.

In your methods section, say that you used the SRQRreporting guidelines, and cite them as:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. Acad Med. 2014;89(9):1245-1251.

	Reporting Item	Page Number
Title		
#1	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	1

Abstract

Introduction

Methods

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rationale for several items might be discussed

together.

Researcher characteristics and reflexivity	#6	Researchers' characteristics that may influence the research, including personal attributes, qualifications / experience, relationship with participants, assumptions and / or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results and / or transferability	6
Context	#7	Setting / site and salient contextual factors; rationale	5
Sampling strategy	#8	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale	6, Figure 1
Ethical issues pertaining to human subjects	#9	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	8, 30
Data collection methods	#10	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources / methods, and	7, 9-10

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		modification of procedures in response to evolving study findings; rationale	
Data collection instruments and technologies	#11	Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if / how the instruments(s) changed over the course of the study	7
Units of study	#12	Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	10,11
Data processing	#13	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymisation / deidentification of excerpts	9-10
Data analysis	#14	Process by which inferences, themes, etc. were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale	9-10, Figure 2, Figure 3,
Techniques to enhance trustworthiness	#15	Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale	6

Results/findings

Syntheses and interpretation	#16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	12
Links to empirical data	#17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	12-26

Discussion

Intergration with prior work, implications, transferability and contribution(s) to the field	#18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application / generalizability; identification of unique contributions(s) to scholarship in a discipline or field	26-28
Limitations	#19	Trustworthiness and limitations of findings	3

Other

Conflicts of interest	#20	Potential sources of influence of perceived influence on study conduct and conclusions; how these were managed	29
Funding	#21	Sources of funding and other support; role of funders in data collection, interpretation and reporting	29

Notes:

- 8: 6, Figure 1

- 14: 9-10, Figure 2, Figure 3, The SRQR checklist is distributed with permission of Wolters Kluwer © 2014 by the Association of American Medical Colleges. This checklist was completed on 17. July 2019 using https://www.goodreports.org/, a tool made by the EQUATOR Network in collaboration with Penelope.ai

BMJ Open

Ambulance use for 'primary care' problems: an ethnographic study of seeking and providing help in a UK ambulance service

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Primary Subject Heading:	Emergency medicine
Secondary Subject Heading:	General practice / Family practice, Health services research, Qualitative research
Keywords:	Ambulance, Emergency Medical Services, Urgent Care, Primary Care Sensitive Conditions, Decision-making

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Manuscripts

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3   1   **Ambulance use for 'primary care' problems: an ethnographic study of seeking**
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1   **ABSTRACT**

2

3   **Objectives:** To explore what factors shape a service-user's decision to call an

4   emergency ambulance for a 'primary care sensitive' condition (PCSC), including

5   contextual factors. Additionally, to understand the function and purpose of

6   ambulance care from the perspective of service users, and the role health

7   professionals may play in influencing demand for ambulances in PCSCs.

8

9   **Design:** An ethnographic study set in one UK ambulance service. Patient cases

10 were recruited upon receipt of ambulance treatment for a situation potentially

11 manageable in primary care, as determined by a primary care clinician

12 accompanying EMS crews. Methods used included: structured observations of

13 treatment episodes; in-depth interviews with patients, relatives and carers and their

14 GPs; purposeful conversations with ambulance clinicians; analysis of routine

15 healthcare records; analysis of the original EMS 'emergency' telephone call

16 recording.

17

18 **Results:** We analysed 170 qualitative data items across 50 cases. Three cross-

19 cutting concepts emerged as central to EMS use for a PCSC: (1) There exists a

20 typology of 9 'triggers', which we categorise as either 'internal' or 'external',

21 depending upon how much control the caller feels they have of the situation; (2)

22 Calling an ambulance on behalf of someone else creates a specific anxiety about

23 urgency; (3) Healthcare professionals experience conflict around fuelling demand for

24 ambulances.

25

26 **Conclusions:** Previous work suggests a range of socio-demographic factors that

27 may be associated with choosing ambulance care in preference to alternatives.

28 Building on established sociological models, this work helps understand how

1 candidacy is displayed during the negotiation of eligibility for ambulance care.

2 Seeking urgent assistance on behalf of another often requires specific support and

3 different strategies. Use of EMS for such problems – although inefficient – is often

4 conceptualised as 'rational' by service-users. Public health strategies that seek to

5 advise the public about appropriate use of EMS need to consider how individuals

6 conceptualise an 'emergency' situation.

7

8

9 **KEYWORDS**

10

11 Ambulance; Emergency Medical Services; Urgent Care; Primary Care Sensitive

12 Conditions; Decision-making;

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14

15 **ARTICLE SUMMARY**

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17 **Strengths and Limitations**

18

19 • This is the first time that such a range of complementary data sources have

20   been used to explore PCSCs in the ambulance service in such case-level

21   detail, offering new insights from multiple perspectives on the same

22   encounter.

23 • The study draws on a relatively small number of cases in a single service,

24   and the methods of eligible case identification necessarily have some

25   subjectivity.

26 • Despite this, regular study advisory group scrutiny and a considered, reflexive

27   approach in the analysis provides confidence that the cases and phenomena

1   described are 'typical' and yield more nuanced new insights on the classical

2   medical sociological models of 'help-seeking'.

3

4 **INTRODUCTION**

5

6 Emergency Medical Services (EMS) calls have been rising in the UK over recent

7 years at 7% per annum [1], [2]. Increasingly, these calls are for conditions or

8 situations that could potentially be managed through a timely contact with a primary

9 care provider [2]. Indeed, recent UK evaluations suggest only approximately 10% of

10 calls represent immediate life-threatening medical emergencies [3]. So-termed

11 'primary care sensitive' conditions (PCSCs) – which include some social situations

12 and mental health problems - often represent less efficient use of ambulance

13 resources, and may result in patients requiring a multitude of contacts to resolve their

14 need [4].

15

16 Despite UK policy favouring an integrated urgent care service that more closely

17 matches 'response' with 'request' [5], relatively little depth-work has considered how

18 and why PCSCs reach ambulance service workflows. A recent systematic review [6]

19 and evidence synthesis [7] identified that the emotional impact of needing advice

20 'urgently' may shape the choices made when help-seeking, offering a more nuanced

21 understanding of the classic illness models [8]. This work has also highlighted the

22 role that certain socio-demographic factors play, some of which appear

23 internationally universal in the context of avoidable ambulance use [6]. Previous

24 interview studies (e.g. [9]) have offered some insights into service-users' experiences

25 of ambulance care for PCSCs. This includes difficulties accessing services and

26 confusion about how services are structured - findings which have been mirrored

27 more generally in the urgent care, GP out-of-hours and Emergency Department

28 settings [10,11,12]. However, there remains a fairly superficial understanding of how

1 all contributing factors – personal, situational, professional and institutional –

2 combine to reflect the observed trend in increased ambulance attendance for

3 PCSCs.

4

5 Ethnography has recently been applied to the study of interactions between

6 ambulance clinicians and patients [13]. By employing the principles of 'triangulation'

7 [14] it is possible to use a variety of qualitative data, collected from complementary

8 perspectives, to offer a much richer understanding of a phenomenon. This

9 ethnographic study, therefore, sought to employ multiple methods to explore how

10 and why an exemplar set of PCSCs ended up receiving ambulance treatment.

11 Ultimately, the study aims to improve understanding of how to meet these needs.

12

13 **METHODS**

14

15 **Participants and setting**

16

17 This study took place in one UK Ambulance Service during a period of 5 months,

18 spanning September 2016 to January 2017. The UK is divided into thirteen regional

19 ambulance services (with additional, separate provision for those Islands with

20 autonomous administration). The service participating in this study handles

21 approximately 250,000 emergency calls per annum, and serves a population of just

22 under 3 million people across a geographic area exceeding 20,000 square

23 kilometres. Cases were eligible for inclusion in this study if the following criteria were

24 met:

25

26 -   The patient was an adult with capacity to consent to study participation;

27 -   The caller (either the patient or their representative) had dialled the national

28   emergency '999' number and asked for an ambulance;

1 - The call had been triaged to receive an emergency ambulance response (of

2   any priority);

3 - The reason for their call was subsequently deemed to be for a potentially

4   'primary care sensitive' situation.

5

6 Such 'primary care sensitive' situations were identified by the first author – MB, a

7 primary care clinician researcher - who accompanied front-line ambulance crews

8 during routine shifts in a 'non-participant observer' capacity. A set of consensus-

9 informed indicator criteria (Figure 1) and professional judgement were used to

10 identify potential cases. Conditions and situations that would likely be realistically

11 amenable to resolution in a primary care setting were considered eligible. This

12 method of identifying 'primary care' cases was favoured over attempts to use clinical

13 records or routine outcome data, as it was felt that a primary care clinician working at

14 the scene could more accurately assimilate all of the clinical, situational and

15 contextual nuances in real-time to make a judgement. The basis for each recruitment

16 was discussed and agreed at regular study team meetings during the recruitment

17 phase, with recruitment continuing until a broad and diverse representation typical of

18 'urgent primary care' presentations had been included, as determined by consensus

19 with the study advisory panel. This panel comprised social scientists, a GP, a

20 paramedic and a patient/carer representative.

21

22 **Location of Figure 1**

23

24 At the conclusion of the ambulance service treatment, the patients (and/or their proxy

25 callers, where appropriate) were provided with information regarding the study.

26 Patients or carers who made contact to request further details were subsequently

27 formally consented. In cases where someone other than the patient had made the

28 999 call, consent was sought from the caller as well as the patient.

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2   **Patient and Public Involvement**

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4   The study team regularly consulted with an Urgent Care Service Users study

5   advisory panel, including patient and carer representatives who had recently

6   accessed ambulance care. This group helped shape the design and focus of the

7   study, ratify the research questions, advise on the content of participant-facing study

8   literature and refine the dissemination strategy.

9

10   **Data collection methods and sources**

11

12   For each treatment contact observed, MB completed an ethnographic template

13   according to the 9 observational dimensions of Spradley [15], (which are now

14   established as key domains for ethnographic studies of healthcare encounters [16]).

15   This template included details on (amongst others) the space, setting, participants,

16   activities, objects and emotions evident in the encounter. Detailed field notes and a

17   reflective diary supplemented these. These were complemented by ethnographic

18   interviews [17] with patients and – where possible – any relatives or carers present,

19   which were conducted within 14-days of treatment, securely audio-recorded,

20   transcribed verbatim and checked for accuracy by participants. Where the

21   observation or interview indicated there may be value in further insights from in-hours

22   primary care, GPs were approached by letter to participate in a semi-structured

23   interview [18], recorded and transcribed as above. These interviews were supported

24   by a printout of the last 12 months of primary healthcare records as stimulus

25   material, used to inform prompts during interviews. Ambulance clinicians consented

26   to be observed at the start of the shift, and to the making of secure audio recordings

27   of spontaneous 'professional conversations' [19] throughout the shift. These were

28   subsequently transcribed verbatim and matched to the cases. The original 999-call

1   recording was securely obtained from the ambulance service, redacted, and

2   transcribed according to the conventions of Conversation Analysis (CA) [20]. A more

3   detailed CA-based analysis has been performed on these recordings and is reported

4   elsewhere [21]. For the purposes of this study a 'realist' content analysis approach

5   was used to enable comparisons to be made across other data sources.

6

7   **Rationale for an ethnographic approach**

8

9   Within the field of applied health research, ethnography has come to encompass a

10   range of complementary, overlapping qualitative principles and techniques that may

11   include the concepts of 'case studies' or 'life histories', constructed through fieldwork

12   undertaken over time amongst the people of interest [17]. Ethnography involves the

13   telling of *'credible, rigorous and authentic stories from the perspectives of people*

14   *experiencing the phenomena of interest in the context of their daily lives and culture'*

15   [22]. Features of an ethnographic approach include: a strong emphasis on exploring

16   the nature of a social problem; a tendency to work with unstructured data;

17   investigation of a small number of cases in great detail; and analysis that seeks to

18   interpret the meaning and functions of human actions within a specific context [23].

19   The key principles of the ethnographic approach, drawing upon the epistemology of

20   subtle (critical) realism [24], are therefore well suited to exploring the mixed physical,

21   social and psychological manifestations of 'unwellness' in the pre-hospital setting,

22   and understanding the actions people take to secure urgent advice.

23

24

25   **Ethical considerations**

26

27   Due to the nature of the possible 'urgency' of the treatment contact, it was not

28   practical to obtain full informed consent for the ethnographic observation at the

1 outset, and in practice some data was necessarily collected (in the form of field notes

2 and observations) before consent was achieved. At the earliest practical opportunity,

3 the observing primary care clinician researcher was introduced to the patient and

4 verbal consent sought to remain. A 'shared understanding' document served as an

5 advance agreement between the researcher and the ambulance crews, such that if

6 any circumstances arose where it was felt that it was either unsafe or inappropriate

7 for the researcher to remain, a process was in place for withdrawal and deletion of

8 any data. The study received a favourable opinion from South West (Frenchay)

9 Research Ethics Committee (Ref 15/SW/0307).

10

11 **Data analysis**

12

13 Analysis commenced early during data collection and continued throughout, following

14 an iterative-inductive approach. The overall analysis approach was thematic,

15 informed by the principles of constant comparison [25]. An individual patient with all

16 their associated data was treated as a 'case'. First, within-case analysis was

17 conducted to capitalise on the rich case-wise ethnographies. Secondly, across-case

18 analysis sought to develop an understanding of common phenomena across the

19 whole dataset.

20

21 Data pertaining to each specific case were indexed and collated with the assistance

22 of the qualitative analysis software NVivo (Version 10). Interview transcripts, field

23 notes, conversations, ethnographic frameworks and 999-call transcripts relating to

24 each case were treated as separate data items. Each data item was repeatedly read

25 and re-read to build familiarity, and then first-level coded, using 'free-form' open

26 codes. Primary care records were similarly first-level coded, in a manner informed by

27 Document Analysis (a specific form of Content Analysis that treats the record as a

28 'document with a specific purpose' [26]).

The codes from these separate data sources were then combined to develop a set of

second level axial codes pertaining to all pooled data items about an *individual* case.

A third tier of coding combined these axial codes into themes. In this analysis, the

term *theme* is used to refer to patterns that run within a case. The techniques of

charting aided this process [27]. Figure 2 provides an illustrative example of within-

case charting of themes.

Location of Figure 2

Secondly, to identify and explore issues across and between cases, a final level of

coding sought to combine these *themes* into *cross-cutting concepts*. It is recognised

that the term 'concept' has a variety of uses and meanings in the social sciences. In

this analysis, the term *concept* is used to refer to a high-level phenomenon that runs

amongst and between cases. Figure 3 provides a diagrammatic overview of the

relationship between data, cases, themes and concepts.

Location of Figure 3

RESULTS

A total of 180 hours of observation were completed, as summarised in Table 1. This

generated 170 data items across 50 cases (48 ethnographic observation templates,

44 patient interviews, 18 carer interviews, 8 GP interviews, 8 ambulance staff

conversations, 10 primary care record extracts and 46 999-call recordings). The

characteristics of cases are shown in Table 2.

Characteristic	Shift Hours	Shift Hours

	(in Rural Setting)	(in Urban Setting)
Solo paramedic responder (rapid response vehicle)	24	24
Dual-crewed paramedic ambulance	56	76
Daytime (08:00-20:00)	44	76
Night time (20:00 – 08:00)	36	24
Weekday	60	76
Weekend	20	24

Table 1: Spread of observation hours according to crew type, time, and day.

Characteristic	Cases (n=50)
Mean age (years)	57.4
Age range (years)	18 – 92
Female	30 (60%)
Has a formal carer	18 (36%)
Not the patient making the 999 call	31 (62%)
Clinical problem	
Acute infection	7
Breathing problems	5
Mental health problems	5
Abdominal Pain	4
Falls, faints & funny turns	4
Sickness / gastroenteritis	3
Confusion	3
Other	3
Chronic pain condition flare-up	3
Urinary symptoms	2
End of life / palliative care problem	2
Chest pain	2
Musculoskeletal pain	2
Skin problems	2
Headaches	2
Medication problems	1
Outcome	
Transported to hospital	14 (28%)
Treated at scene – no referrals	13 (26%)
Treated at scene – referred to GP	18 (36%)
Treated at scene – referred to community nursing or social care	4 (8%)

11

Refused further treatment	1 (2%)

Table 2: Characteristics of recruited 'cases'.

Three cross-cutting concepts emerged from the cross-case analysis. These are:

1. There exists a typology of circumstances that result in an ambulance for a 'primary care' problem. These circumstances result from both internal patient-specific factors and external environmental factors.
2. Calling an ambulance on behalf of someone else generates a specific anxiety around prioritisation and urgency.
3. Clinicians are conflicted about dealing with the problem in front of them, and fuelling further demand.

1: There exists a typology of circumstances that result in an ambulance for a 'primary care' problem

This concept groups together and describes the circumstances that appear to result, most fundamentally, in the trigger to make contact with the ambulance service.

These sets of circumstances can be considered together as a 'typology' of triggers. Although it can not necessarily be claimed that this group of trigger circumstances is true for *all* '999' calls to the ambulance service, within this group of cases it is possible to summarise all of the circumstances under nine headings. They have been classified as either 'internal factors' or 'external factors' (or both). 'Internal factors' tend to describe a participant's perception of their lived experiences. 'External factors' describe the actions and perceptions of people or services around

12

1 the patient. This classification helps to typify some of the circumstances and there is

2 overlap – contradicting examples are highlighted below, where they occur.

3

4 Importantly, this typology of 'trigger factors' appears consistent in shaping both a

5 patient's decision to call an ambulance, and a carer or relative's. This would suggest

6 that these factors do more broadly describe the *circumstances* rather than the

7 *individuals* involved. Table 3 summarises these trigger factors.

8

'Internal' factors	'External' factors
An arbitrary deadline is reached	An outsider offers advice / an opinion
The situation becomes 'overwhelming'	An alternative avenue of care meets a block
A symptom triggers a 'red flag'	A healthcare professional takes charge
Experience of isolation	The problem belongs to someone else
A change occurs in care provision	

9

10 **Table 3:** Trigger factors that result in an ambulance contact

11

12 **An arbitrary deadline is reached (internal factor)**

13

14 This classification was a common trigger for patients with both acute conditions and

15 long-term problems, and describes a circumstance whereby the patient or carer sets

16 an arbitrary time frame for resolution of some symptom or situation. If that time frame

17 is exceeded, the patient reaches the conclusion that the situation justifies an

18 ambulance call:

19

20 *"I'd been on these things [antibiotics] for two days by that time, and I hadn't seen*

21 *signs of improvement. He'd told me that if the redness spreads across the line to call*

22 *him back. Well it hadn't done that. But he also said it would start to get better in a*

23 *couple of days. I took the first one with tea on Tuesday, so, well, it was two full days*

24 *by teatime Thursday wasn't it?"*

1 Patient Interview, Case 31 (cellulitis).

2

3 The ambulance staff appeared very familiar with this situation, and reflected how it

4 even influences the organisation's operational planning:

5

6 *"Yeah, people do that don't they? They sort of set a line in the sand around key*

7 *points of the day? We find that a lot. For some its dinnertime or bedtime or whatever.*

8 *The service does see increases in calls around certain specific times of the day*

9 *because of people doing that. I suppose it is only natural that you draw a line in the*

10 *sand at a specific point but I do struggle to understand the decisions sometimes."*

11 Ambulance Staff, Conversation 1

12

13 For these patients, the timeframe of their experienced illness appears the principal

14 driver in making the call.

15

16 **The situation becomes 'overwhelming' (internal factor)**

17

18 This classification describes a situation whereby the caller feels that all their current

19 issues – symptoms, social circumstances, emotional resilience – have reached a

20 point that they cannot continue to function without ambulance help. The term

21 'overwhelming' was drawn from the following participant interview:

22

23 *"I was just completely losing track of it all to be honest. The pills I had to give [my*

24 *wife], all the comings and goings of the carers, the dressing kept coming off, the*

25 *phone is going all the time, I need to do her tea and sort everything at home out, and*

26 *then this? This mix-up with the medicines. Truth be told I just felt a bit overwhelmed*

27 *by it all, you see?"*

28 Carer interview, case 36, Medication administration error.

1

2 There are examples in the case set of where patients themselves feel overwhelmed

3 and where carers or relatives feel overwhelmed. Although there is a link with the

4 concept of isolation, being 'overwhelmed' does appear conceptually distinct, as some

5 non-isolated callers also felt 'overwhelmed' by the burden that their experience

6 placed upon them.

7

8 **A symptom triggers a 'red flag' (internal factor)**

9

10 In a number of cases, patients or carers had been managing their illness or condition

11 up to a point where a new feature or symptoms emerged that triggered concern

12 about a serious illness. Health care professionals often refer to 'red flag' symptoms

13 as those that may be indicative of a serious underlying illness, and that warrant being

14 taken seriously. It appears this term – both literally and conceptually – has entered

15 the patient lexicon too, as it was referred to as the specific trigger in a number of

16 cases:

17

18 *"Well, when he had chest pain too, you don't ignore that do you? It's like some kind*

19 *of red flag to a bull isn't it? You act - you call - huh?"*

20 Carer Interview, Case 8, Muscular Chest Pain

21

22 *"I thought 'oh my God you get a rash in meningitis' don't you? Don't you?"*

23 Patient Interview, Case 19, Skin complaint

24

25 Such discussion of 'red flags' was evident in some of the primary care consultation

26 records, as part of the safety-netting process:

27

1   *"SOS and red flags disc[ussed]. Knows [to call] OOH [out of hours]/999 etc if*

2   *^pain/haemop[tysis]/SOB[shortness of breath] etc at any further stage."*

3   Primary Care Record Extract, Case 35, Swollen leg.

4

5   The vagueness of the clinician's advice about timeframes within which patients

6   should act if they experience a 'red flag' was cited as a particular source of anxiety in

7   some patient and carer interviews, and was reflected in the observations.   There

8   were also examples of patients attempting to self-manage conditions through internet

9   research, and mis-attributing a description of a 'red flag' to their own situation.

10

11 **Patient experiences isolation (internal factor)**

12

13 The experience of isolation appeared to drive contact with the ambulance service in

14 a number of ways. There were examples of cases where the isolation was to do with

15 very practical aspects of living, possibly sudden or abrupt – perhaps someone who

16 usually provided counsel or a channel of connection was no longer available. There

17 were other examples where the isolation was longstanding, with a strong social and

18 emotional component:

19

20 *"[The] Lady asked me to pass cheque-book sized photograph album that was sitting*

21 *on the mantelpiece next to her armchair, so she could put [it] in her purse to take with*

22 *her [to hospital]. Asked her about it; noted it was embossed with the title 'friends who*

23 *have entered the everlasting'. She told me how she took the memories of her friends*

24 *with her wherever she went so that they were "always by her side". Asked her if there*

25 *was anyone we should let know she was going in. 'No, there's no one left'."*

26 Extract from ethnographic framework and field note diary, Case 42, Chest Infection

27

1   Interestingly, there were also examples of where isolation was expressly recognised

2   as a feature in the lives of some participants, but rejected as a factor in triggering an

3   ambulance contact. In these cases, participants explained how isolation was

4   something that they had learned to adapt to such that it wasn't the driving factor in

5   seeking ambulance help:

6

7   *"I know I am all on my own here, and my family are far away. They can't do much*

8   *practically for me. But I have found ways around that, you know? I save things up to*

9   *tell them. I know they care from afar and so I just get on with doing what is necessary*

10   *rather than relying too much on them… practically, at any rate. I get my own help if I*

11   *need it. It doesn't bother me that they are not on the doorstep."*

12   Patient Interview, Case 21, urine infection

13

14   This particular case is interesting, as much of the interview focussed on how well he

15   felt he was coping on his own without practical support. Whilst this participant would

16   certainly not define himself as emotionally isolated, many of the codes in the data

17   about this case pertained indirectly to issues of practical isolation, and so the concept

18   of isolation was very strongly expressed in the analysis, even though he overtly

19   rejected it.

20

21   **A change occurs in care circumstances (internal and external factor)**

22

23   This category describes situations where a (usually sudden) change in the social

24   care provision propels the patient towards ambulance care, or results in the carer

25   calling an ambulance. The former appears most commonly due to the turmoil that the

26   destabilising effect of carer change has:

27

1 *"And it was a new woman? And I don't think she got it, she didn't really seem to see*

2 *how unsettled he was in and that wasn't normal for him. So I didn't think she really*

3 *knew what to do. She didn't know him before, that was the trouble, so I had to act!".*

4 Carer Interview, Case 34, (Confusion)

5

6 In this example, the change in carer provision had caused an upset to the usual

7 routine. Deeper analysis of the 'change of carer' concept reveals that this is actually

8 quite complex. There is a lack of familiarity, with all of the personal relationship and

9 trust issues that this may bring. There is also a lack of familiarity – as exemplified

10 here – with the patient's usual 'baseline' level of functioning. This can either create a

11 situation of heightened anxiety (in the cases where someone actually appears quite

12 unwell, but this is their normal level), or a perceived lack of awareness of subtle but

13 important signs of deterioration. In the above example, neither the practical nor

14 emotional benefits of familiarity were present, and the situation reached a flash point.

15

16 A change in the informal care arrangements, such as occurred when a relative

17 became unavailable, also had a destabilising effect:

18

19 *Care plan noted: 'Mr Xs son away at the moment, seems to be causing some*

20 *distress and concern. Phoned son and message left to say to call dad ASAP.' The*

21 *carer seemed to feel that Mr X was very unsettled by the fact his son was away.*

22 Ethnographic framework and field note diary, Case 32, unsteady on legs

23

24 **An outsider offers advice (external)**

25

26 This was a common trigger, and was found to a greater or lesser extent in nearly half

27 of all the cases. Typically, the 'outsider' was a friend or relative who offered a

28 perspective that *increased* the perceived urgency or legitimacy of the situation. In

several situations it appeared that the 'outsider' was actually the main driving force behind the contact with the ambulance service:

"The friend who is present appears very keen for us to see the photographs of a meningococcal rash that she has brought up on her iPad, showing everyone present several times during the treatment contact that is what she thought the rash was."

Ethnographic framework and fieldwork diary, Case 19, Rash

Ambulance staff spoke about their awareness (and even frustration) about the role that those around the patient can have in driving the situation:

"You sometimes have to just remove people… physically remove people… from the situation because they are not being helpful. It is like they are projecting their own anxieties on to the patient and it's not helping. You are trying to have a sensible chat with the patient about your clinical rationale and diagnostic reasoning, and they keep chipping in something really unhelpful… like that lad earlier who kept talking about brain tumours, yeah? I mean, that's something clearly he has got some specific issues about from his past, but it's not terribly helpful and it totally clouds the person's thinking when that is going off in their ear, you know?"

Ambulance Clinician Conversation 8, Case 47, headache

The ambulance staff recognise that the driver behind certain call-outs has not come from the patient themselves, and so they sometimes find themselves managing two problems – the actual clinical problem in the patient, and a separate situation in the 'other' person who is really the root of the call to the ambulance service. Staff, therefore, can feel a mixed responsibility as to whom it is they are really there to help.

1

2   **An alternative avenue of care meets a block (external factor)**

3

4   This set of circumstances describes the perception of a 'road block' when trying to

5   access care via alternative avenues. The result is that the caller feels (accurately or

6   otherwise) they have exhausted all other options, and the ambulance is the only

7   viable pathway. Sometimes the block is overt:

8

9   *"I mean I tried that [calling the GP surgery] but they told me I should phone an*

10 *ambulance"*

11

12 Sometimes the 'block' is less clear. In the following example, the response from

13 mental health services is perceived as a 'block' because it didn't mean the timescale

14 that the caller has determined is appropriate for the pressing and immediate needs:

15

16 *"They sent me away, said he can't see a psychiatrist until Thursday. Well that's no*

17 *use is it, fobbing me off with an appointment in two days time? What do I do for the*

18 *next two days, lock him in the house?"*.

19 Carer interview, Case 10, Mental Health Crisis

20

21 Healthcare staff appeared aware of how this 'block' can be perceived, and that it can

22 have consequences with regards to how patients choose to access care:

23

24 *"Hmm, we try and facilitate a GP call-back, but it is often not immediate – there is*

25 *often a delay once the request is passed from the reception girls. I guess that*

26 *delay… we try and minimise the delay for the patients we know… but I guess that*

27 *delay for some people is too long to be hanging in the air not knowing what to do?*

20

Often you phone back… like here… half an hour later and they say 'oh we've called the ambulance, don't worry now'. It is a bit frustrating."

GP Interview

A healthcare professional takes charge (external factor)

This classification describes circumstances whereby a health professional takes over and directs the patient to call an ambulance. This appeared to happen in one of two ways. This might be through specific follow-up advice to the patient to take that course of action in the here-and-now as documented below:

"COPD, still exacerbating, started rescue pack, sounds SOB, advised 999".

Primary Care Record Extract, Case 43, COPD Exacerbation

Or by offering safety-netting advice to help them identify the need to seek further medical help:

"Adv[ised to call] 999 if any change at all, if any further prob[lem]s or deterioration"

Case 22, Clinical records, COPD exacerbation

If the advice was delivered to the patient as recorded here, it would seem very clear that the health professional was guiding the patient towards accessing ambulance care in virtually any non-specific circumstance other than noteworthy and rapid clinical improvement. The potentially all-encompassing phrase *'if any further problems'* has been found to be commonly used by GPs as a form of diagnostic safety-netting [28].

This problem belongs to someone else (external factor)

The final classification related to situations where the caller felt that the problem or circumstance they found themselves in was someone else's responsibility to manage. This occurred frequently where formal care staff were concerned:

"So, I am not a medical person. I cannot be making decisions about when clients should and shouldn't see doctor, mmh? If they fall, and even if no obvious injuries or pains, they need to be checked, because I will be told… it is not my job to know if they are hurt or something. They need medical people for this. If something should happen, well - hah! I will be blamed."

Carer Interview, Case 13, Dizziness

Issues of accountability, (limits of) profession roles and the potential for blame and repercussions run through this example. There were also examples of a genuine desire to ensure that something wasn't missed:

"Somebody needs to come and manage this. There is a process I am sure, so my role is to let them know and get that process going."

Carer Interview, Case 5, End of Life

The field notes were also able to add an interesting perspective on this 'handing over' of the problem, but showing how some people assumed a certain course of events (e.g. admission) would occur almost without question once they call the ambulance:

"By the front door were two nearly packed overnight bags, a mobile phone with charger, several books, toiletry bags, and a completed 'tick sheet' of jobs including 'cancel milk, call neighbour re cat, thermostat down'. It almost appeared like a list

one would write before going on holiday. It was apparent that the patient was very

much expecting to be taken to hospital".

Field notes, Case 6, abdominal pain.

2: Calling an ambulance on behalf of someone else generates a specific anxiety around prioritisation and urgency.

This concept is about seeking ambulance care on behalf of someone else, and contrasts specifically with the process of seeking ambulance care for oneself.

Within this cross-cutting concept are themes relating to responsibility. Responsibility appears to be interpreted differently, depending on whether the carer is a formal 'professional' carer, or an informal relative carer. The two groups appear to handle their perceived responsibilities differently. Whilst there are links with the above ideas of triggers – particularly the 'the problem belongs to someone else' external trigger – this concept explores the deeper reasoning people undergo to reach that conclusion.

Formal, professional carers appear to handle their responsibility in terms of a professional duty and accountability. They see 'risks' in the terms of the potential professional consequences for them if they are viewed as having failed to do their job properly. This may lead to a lower threshold to call an ambulance:

"We have to escalate, because, we could get in trouble if it is something serious and we didn't act. You have your registration to think about, and the [professional] code [of practice]. The code says you must escalate your concerns quickly."

Carer interview, Case 49, Confusion.

1   Ambulance staff also described how they notice a specific decision-making process

2   in professional carers:

3

4   *"You know they wouldn't call you if it was their relative in that situation! They have*

5   *their box to tick… their checklist I guess. They would clearly manage the same*

6   *problem very differently if it was their mum, but it's not their mum? It's their client, or*

7   *their customer, or whatever term they use. It's a different relationship and it means*

8   *they act differently. They take the path of least risk I think, and that's calling us."*

9   Ambulance Clinician Conversation 6

10

11   This is in contrast to the much more emotional response that many informal carers

12   had towards decision-making and risk, seeing their responsibility much more along

13   the lines of doing the best they could for the person they cared for:

14

15   *"I blamed myself for the whole mix-up really. It was up to me to put it right, do right by*

16   *him, you see? I felt I had in some way caused… well not caused it but, you know,*

17   *made the situation a bit more muddled, and so the right thing to do by him was to get*

18   *some advice as quickly as possible. I'd owe him that at least!"*

19   Carer interview, Case 40, end-of-life / medication confusion.

20

21   It appeared that for the relative-carer group, the immediacy and the urgency of the

22   response fulfilled a very important role. They appeared to be discharging their sense

23   of responsibility through the perceived speed of the response (and therefore how

24   seriously they felt their request for help was being taken). When evaluating oneself,

25   one has the advantage of experiential knowledge of 'knowing how you feel'; in

26   contrast, one is constrained by the quality and extent of communication from another

27   when evaluating the health state of others, which may contribute to a lower risk

28   threshold:

1

"She was just shaking, I didn't know what was going on! Shaking like that! [gestures].

She couldn't really tell me how she was feeling. When it's you, you know how you

feeling don't you? You know if you feel unwell with it? Or if you think it's something

serious? But with her…well she couldn't tell me, and so I just thought… well I didn't

know, so I called the ambulance".

Carer Interview, Case 2, Urinary Tract Infection

3: Clinicians are conflicted about dealing with the problem in front of them, and fuelling demand.

As all of the cases included in this analysis were for problems that could be deemed 'primary care sensitive', there was an inherent element of balancing the need to manage the situation that resulted in the call, and re-direct the patient to another provider:

"They [the patients] want a consultation, they want to discuss their options, the pros and cons of each and be assisted towards a decision. Well, that's 'primary care', that's not what ambulances traditionally do. They want something from the service that it is not designed or able to deliver."

GP Interview

"It's really hard – you know that this person has totally called the wrong people. You offer strong words of advice, but how far do you go? The person still needs treatment, so if you don't deal with the situation you just pass the person around and around".

Ambulance Staff Conversation, Mental Health Condition

1   There is evidence in the data to suggest that patients can sometimes sense

2   themselves that they are 'caught up' in this dilemma, and that their requests and

3   needs can present health professionals with difficulties. One patient who felt

4   conflicted about the best course of action showed a particularly insightful example of

5   this. She recognised that her own limitations in determining how urgent her case

6   was could pose a problem for the clinicians at her surgery, as she was not able to

7   articulate with confidence a response to some of the triage questions:

8

9   *"The question… it's the questions they ask that are really hard to answer, you know?*

10   *They say 'oh is it an emergency?' and I sometimes feel like saying 'I don't know,*

11   *that's why I want to talk to the doctor! You know? I don't know. It seems silly, I mean*

12   *– I know they have to ask but when you say you don't know… it sometimes feels like*

13   *you are not being terribly helpful, but you don't know! And so you wonder if it is better*

14   *not to get them into that pickle by just going for the ambulance you know? And then*

15   *you have not had to make the situation for them [the surgery]. It is as if things are set*

16   *up to take you down a certain path, you know?"*

17   Patient Interview, Case 22, COPD

18

19

20   **DISCUSSION**

21

22   This study sought to further understand why PCSCs result in contact with ambulance

23   services, by characterising the context and purpose of the request for help from the

24   service-user's perspective, and identifying if (and how) the response to that request

25   meets that need. In order to request ambulance treatment, callers must view

26   themselves (or the person in their charge) as 'candidates' for such assistance.

27

1   This notion of 'candidacy' describes how service-users embark upon negotiations

2   with healthcare professionals (or institutions representing healthcare, such as EMS),

3   based on their perceived entitlement to urgent care [10]. With regards to PCSCs,

4   this study suggests that entitlement is realised through (a) experienced health state

5   (b) a personal assessment of risk and (c) external triggers. Importantly, this study

6   suggests that the 'trigger factors' outlined in cross-cutting concept 1 may *de facto*

7   engender a sense of candidacy for ambulance care.

8

9   Outside of the context of needing urgent advice, patients and their carers are able to

10 rationalise what 'reasonable' use of resources looks like [29]. Yet, in the heat of the

11 moment, the influences of uncertainty, a sense of responsibility for the welfare of

12 another and a knowledge that the system needs certain information to prioritise

13 requests made of it, a new rationality exists. The logic behind such rationality is often

14 presented by callers in terms of why other avenues have met "a block" – a perception

15 that may not always be accurate.

16

17 The seminal sociological illness-behaviour and help-seeking models have long

18 recognised how broadly discrete 'triggers' can drive a decision towards consulting

19 behaviour, through temporizing of symptomatology (e.g. [30]), the interference of

20 symptoms with personal or vocational activities (e.g. [31]), or the occurrence of an

21 interpersonal crisis as a result of illness (e.g. [31]). The influence that others have on

22 this decision-making has also been well established, including how the so-termed

23 "lay referral system" is often a patient's trusted source of advice on if, when and how

24 to consult (e.g. [32]). The sanctioning of consulting decisions by trusted others is also

25 a well-recognised aspect of primary care help-seeking behaviour [31]. This study

26 supports the applicability of these principles to seeking ambulance care for PCSCs.

27 Although these others may be 'outsiders', they are often seen as 'insiders' by callers,

1   and as such their advice may be seen as more relevant than the generic institutional

2   messages intended to mitigate demand.

3

4   Additionally, the sense of distancing oneself from one's actions is achieved through

5   the justification of circumstances as an *emergency* situation, which is often

6   indistinctly blended with an *uncertain* situation. This justification is – at least in part –

7   compounded by the healthcare provider's conflicted stance on dealing with the

8   problem *now*, or re-directing the patient to a primary care provider. There therefore

9   exists a circular challenge – by not resolving the issue during the EMS contact when

10   it would be technically possible to do so, the problem is perpetuated within the

11   system. This lack of resolution is professionally unfulfilling and inefficient, yet

12   resolving the contact feels to practitioners like reinforcement of (questionable)

13   candidacy.

14

15   As such, practitioners offer (and service-users value) other elements rather than just

16   medical treatment. This study supports previous work, suggesting that these

17   elements include reassurance [33], empathy [34], and a sense of bringing control to

18   an unmanageable or intolerable situation [7, 9, 33]. The findings of this study suggest

19   that service users might be seeking these non-medical elements of care when they

20   make contact with the EMS for PCSCs. Indeed, irrespective of the true clinical

21   severity of the situation, this study supports the idea that people feel at the limit of

22   their ability to cope with the situation as they perceive it when they call – they have

23   arrived at their own "critical situation" [35]. The present triage processes they

24   encounter are neither designed - nor always able - to offer resolutions.

25

26   For nearly two decades, the academic discourse has sought to challenge the

27   labelling of callers such as those in this study as merely 'inappropriate' users of

28   ambulance services [36]. Indeed, international researchers are now recognising that

1 these 'inappropriate' contacts provide useful insights into equality of access and

2 utilisation of preventative healthcare in the community [37]. Nevertheless, the

3 influence of healthcare professionals' views on what is 'appropriate' ambulance work

4 continues to influence how practitioners manage these contacts [38]. Consequently,

5 the debate about what is fuelling society's apparent general declining ability to

6 tolerate 'uncertainty' and 'risk' continues. The established sociological concept of an

7 increasingly 'risk averse' society [39, 40] is omni-relevant. Additionally, it is important

8 to understand that healthcare institutions display their own attitudes to 'risk' via the

9 triage processes they require callers to undergo. This will impact on a process that is

10 already emotionally charged [41]. Where third-party callers are involved, the

11 projection of candidacy discussed above may be particularly problematic.

12

13

14 **CONCLUSIONS**

15

16 This study builds on the established sociological literature with implications for public

17 health messages. Whilst the public have an unquestionable responsibility to try and

18 use scarce emergency resources appropriately, merely informing them to 'only use

19 emergency services in a genuine emergency' is unlikely to be of practical use in their

20 moment of need. Where PCSCs enter ambulance workflows, there often exists a

21 sequence of events where alternative avenues have been rationally explored but

22 appear unsuitable. The public (and in particular, those calling on behalf of another)

23 may need specific, detailed practical guidance to help them 'hold' some of the risk

24 inherent in an uncertain situation. The present systems do not appear to permit the

25 handing-back of control of the situation to caller. This may require a specific triage

26 system that uses inherently different logic to 'first party' calls.

27

28

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2

6

7

8   **FOOTNOTES**

9

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15

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21

22   **Competing Interests:**

23   None declared.

24

25   **Patient consent:**

26   Not required

27

28   **Ethics approval:**

1
2
3   1   The study received a favourable opinion from South West (Frenchay) Research
4
5   2   Ethics Committee (reference 15/SW/0307), and appropriate local governance
6
7   3   approvals were obtained.
8
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10   4
11
12   5   **Data sharing statement:**
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14   6   No additional data are available.
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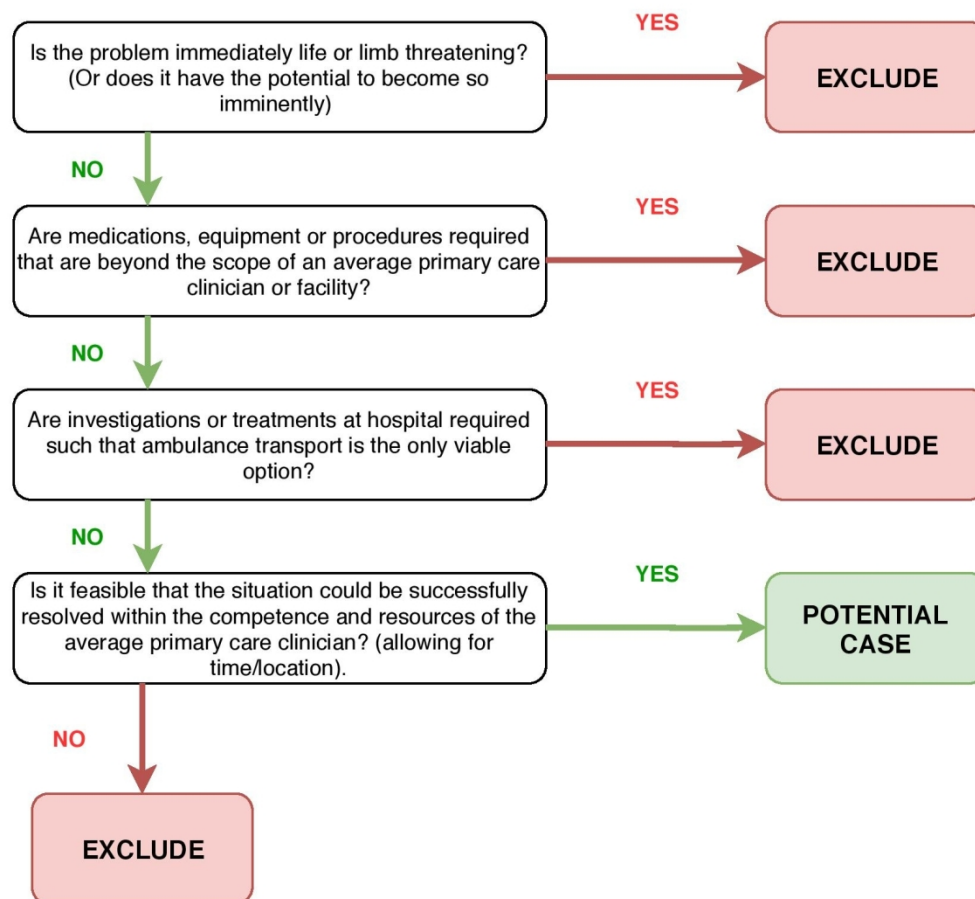26   23 Hammersley M, Atkinson P. Ethnography: principles in practice. London:

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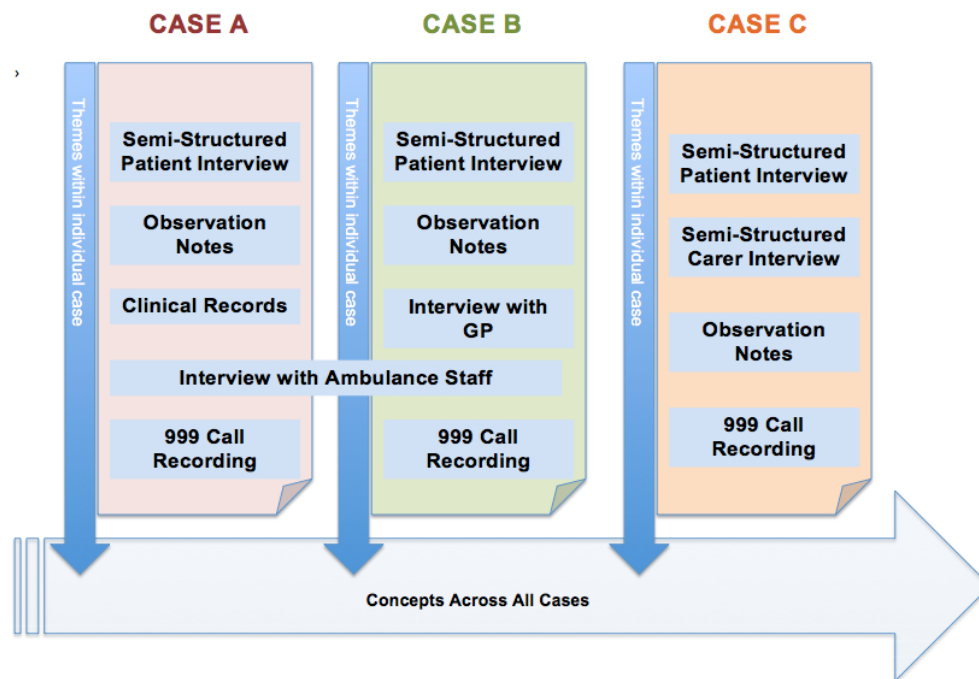
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17 **Figure legends**:

18

19 Figure 1: Indicator criteria for 'primary care sensitive' case identification.

20 Figure 2: The 'charting up' process used to analyse data sources within cases.

21 Figure 3: The relationship between cases, *themes* and *concepts*.

Indicator criteria for 'primary care sensitive' case identification.

142x131mm (300 x 300 DPI)

	Case A		
Data Source	*Axial Code: Discounting of alternative sources of help*	*Axial Code: My burden of health problems makes access difficult*	*Axial Code: No one understands what it is like to live with my health problems*
Observations	First-level code: Repeatedly expressed that GP wouldn't be able to help with this problem [A.16B]		First-level code: List of medications, diagnoses and specific problems these cause carried in handbag [A.112J]
Patient Interview	First-level code: Difficult to make oneself understood over the telephone cf face-to-face [A.23G]	First-level code: Breathlessness makes getting myself to the treatment centre impossible [A.72R]	First-level code: Difficulty summarising how the condition makes me feel to health professionals [A26.Y]
Carer Interview	First-level code: Speaking to the doctor hasn't been able to resolve this previously [A.63F]		First-level code: Need to explain on behalf of patient as finds upsetting to talk about [A.83.Y]
Primary Care Records		First-level code: Records annotated to allow telephone requests for repeat medication. [A.11K]	
GP Interview			First-level code: Depression largely results from severity of illness [A.4.J]
Ambulance Clinician Conversation	First-level code: Patients give reasons why they have not accessed care down another avenue to justify call [A.12H]		First-level code: Patients struggle to explain what prompted the call *today specifically* in an on-going longer term problem [A.67.B]
Field Note Diary	First-level code: Justification for 999 call made on basis of exclusion of other viable options [A.55A]		First-level code: Difficultly communicating how challenging day-to-day life is [A.53.K]

The relationship between cases, themes and concepts.

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Reporting checklist for qualitative study.

Based on the SRQR guidelines.

Instructions to authors

Complete this checklist by entering the page numbers from your manuscript where readers will find

each of the items listed below.

Your article may not currently address all the items on the checklist. Please modify your text to

include the missing information. If you are certain that an item does not apply, please write "n/a" and

provide a short explanation.

Upload your completed checklist as an extra file when you submit to a journal.

In your methods section, say that you used the SRQRreporting guidelines, and cite them as:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research:

a synthesis of recommendations. Acad Med. 2014;89(9):1245-1251.

	Reporting Item	Page Number
Title		
#1	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	1

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Abstract

#2   Summary of the key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results and conclusions   2

Introduction

Problem formulation   #3   Description and signifcance of the problem / phenomenon studied: review of relevant theory and empirical work; problem statement   4

Purpose or research question   #4   Purpose of the study and specific objectives or questions   5

Methods

Qualitative approach and research paradigm   #5   Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenolgy, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist / interpretivist) is also recommended; rationale. The rationale should briefly discuss the justification for choosing that theory, approach, method or technique rather than other options available; the assumptions and limitations implicit in those choices and how those choices influence study conclusions and transferability. As appropriate the   8

rationale for several items might be discussed together.			
Researcher characteristics and reflexivity	#6	Researchers' characteristics that may influence the research, including personal attributes, qualifications / experience, relationship with participants, assumptions and / or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results and / or transferability	6
Context	#7	Setting / site and salient contextual factors; rationale	5
Sampling strategy	#8	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale	6, Figure 1
Ethical issues pertaining to human subjects	#9	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	8, 30
Data collection methods	#10	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources / methods, and	7, 9-10

		modification of procedures in response to evolving study findings; rationale	
Data collection instruments and technologies	#11	Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if / how the instruments(s) changed over the course of the study	7
Units of study	#12	Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	10,11
Data processing	#13	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymisation / deidentification of excerpts	9-10
Data analysis	#14	Process by which inferences, themes, etc. were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale	9-10, Figure 2, Figure 3,
Techniques to enhance trustworthiness	#15	Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale	6

Results/findings

Syntheses and interpretation	#16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	12
Links to empirical data	#17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	12-26

Discussion

Intergration with prior work, implications, transferability and contribution(s) to the field	#18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application / generalizability; identification of unique contributions(s) to scholarship in a discipline or field	26-28
Limitations	#19	Trustworthiness and limitations of findings	3

Other

Conflicts of interest	#20	Potential sources of influence of perceived influence on study conduct and conclusions; how these were managed	29
Funding	#21	Sources of funding and other support; role of funders in data collection, interpretation and reporting	29

Notes:

- 8: 6, Figure 1

- 14: 9-10, Figure 2, Figure 3, The SRQR checklist is distributed with permission of Wolters Kluwer © 2014 by the Association of American Medical Colleges. This checklist was completed on 17. July 2019 using https://www.goodreports.org/, a tool made by the EQUATOR Network in collaboration with Penelope.ai